

FURTHER NOTES ON SUPPOSED HYBRIDISATION
AMONGST EUCALYPTS (INCLUDING A DESCRIPTION
OF A NEW SPECIES).

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The question of hybridisation amongst Eucalypts has been a moot one for many years. Recently we called attention to the subject (these Proceedings, 1900, xxv., 111), and Mr. R. H. Cambage has a further note (*ibid.*, xxv., 716). We would point out that in supposed cases of hybridism an Ironbark has hitherto been generally looked upon as one of the parents.

We again invite attention to the trees distinguished in a former paper as *b*, *c*, *d*, *e*, *f* (these Proceedings, 1900, xxv., pp. 111-112).

We amend our reference to *b* by stating that an extended series of specimens shows that its anthers do not really differ from those of *c*, *d*, *e* and *f*. We look upon all these trees, viz., *b*, *c*, *d*, *e*, *f*, as belonging to one species, all the differences noted being referable to local variation.

It has already been shown that this tree possesses affinities both to *E. siderophloia* and *hemiphloia*; some botanists may look upon it as a variety of either species. To our mind it occupies a position so intermediate between these two species that we have from time to time provisionally called it *E. siderophloia*, var. *hemiphloia*, and *E. hemiphloia*, var. *siderophloia*; but both these descriptive names have the objection, in our view, of committing one to a definite opinion as to the parentage of the species. As it seems sufficiently constant in its characters over a large area, we think the wisest course is to give it a definite name, and therefore propose to call it *E. Boormani*, after John Luke Boorman, a collector of the Botanic Gardens, who, in regard to this and

other species, has prosecuted enquiries in an intelligent and painstaking manner.

We are indebted to specimens of a species from Concord from Mr. R. H. Cambage, and the examination of the specimens from the point of view of hybridisation is so instructive that we relate it in detail. Mr. Cambage stated that his tree was growing among *E. paniculata*, Sm., (another of the Ironbarks), with *E. hemiphloia* near. He added :—"The fruits look like those of *E. paniculata*, but the bark is not that of an Ironbark. The bark is as smooth as that of *E. hemiphloia*, and continues right up among the branches." Reference to the herbarium of the late Dr. Woolls showed that he had, many years previously, obtained specimens from the same locality, and following is a copy of his label :—" *E. paniculata*, Bastard Ironbark. Bark something like Woolly Butt or Box." The immature fruits have rims which remind one of those of *E. melliodora*, and, while seized of its affinities to *E. paniculata*, *E. siderophloia*, and *E. hemiphloia*, there was certainly evidence to look upon it as an aberrant form of *E. melliodora*, and also of *Bosistoana*, an affinity which (as regards the latter species) had already been arrived at by Mueller (though in a different way), as regards the Cabramatta specimens (see p. 343). The fruits are a shade smaller than those of some specimens in our possession, and we have from time to time looked upon the tree as a possible hybrid between *E. paniculata* and *E. hemiphloia*, and *E. paniculata* and *E. melliodora* respectively. We have examined the trees referred to by Dr. Woolls and Mr. Cambage, and are of opinion that, while they may be properly described as "Black Box" and "Ironbark Box," there are certain points of difference between them and the Cabramatta trees which make us hesitate in referring them to the same species. The foliage and fruits are less coarse than those of Cabramatta, and this circumstance, coupled with the fact that the trees grow amongst *E. paniculata*, may cause some observers who may be inclined to look upon the Concord trees as hybrids to consider that *E. paniculata* is one of the parents. Bearing in mind that cases of hybridisation amongst Eucalypts usually break down

under fuller examination, we hesitate to believe that we have a case of hybridisation here, and will revert to the subject at some future time.

With these somewhat lengthy prefatory remarks on points connected with supposed hybridism amongst Eucalypts, we proceed to give a botanical description of *E. Boormani*, already referred to.

The name "Black Box" seems to be most generally in use for this species; the even better name of Ironbark Box (which certainly indicates its affinities) is nearly as frequently in use. At Lue it is also called "She Ironbark," its difference from the ordinary Ironbarks being thus recognised.

Bark dark in colour, often very dark grey and even black. In texture scaly, sometimes hard scaly, and even in parts nearly as rugged as an Ironbark, but never as soft as a Box. The rough bark extends to the small branches.

Timber pale reddish-brown in colour, hard and durable, and, according to the testimony of many observers, while of an Ironbark character, even superior to the Ironbarks of the district in which it grows. It is much sought after by wheelwrights for spokes and shafts, and the special demand for it is causing it to be scarce in readily accessible localities.

It is looked upon as a grand pile timber, and the bushmen say they get a bigger price for it than for any others. The posts of the small bush-house in the Botanic Gardens, Sydney, are of this timber, and Mr. Vallins, of Bankstown, who erected it, looks upon it as the most valuable timber in his district.

The only unfavourable report of the timber we have seen is by the late Mr. T. Shepherd, who, while praising its good qualities, speaks of it as a bad burning wood—perhaps really an advantage, as a timber of this character is really too valuable for use as fuel.

Sucker leaves broad and coarse, nearly orbicular, but early becoming lanceolate.

Mature leaves ovate-lanceolate to lanceolate, usually three to six inches long, and over one inch in breadth; veins fine and rather spreading, the intramarginal vein usually quite close to

the edge. Texture of the leaf coriaceous and tough, like that of *E. siderophloia*.

Buds.—The buds and stamens appear to us not to differ from those of *E. siderophloia*.

Operculum conical, like that of *E. siderophloia*, but we have not observed the operculum much to exceed the calyx, which is very commonly the case in *E. siderophloia*, especially in var. *rostrata*.

Fruits nearly semiovate, often slightly angular, usually presenting a good deal of resemblance to those of *E. siderophloia*, but the valves (which usually number four, and sometimes five) scarcely exerted. About three to four lines in diameter, and not contracting at the orifice. Sometimes so subcylindrical in shape as to exhibit considerable resemblance to those of typical *E. hemiphloia*, F.v.M.

Range.—Bankstown and Cabramatta districts, thence across country to Penrith. It has also been found at Lue on the Mudgee line.

E. Boormani seems to have its closest affinity to *E. drepanophylla*. Further investigations may even cause it to be looked upon as a southern form of the Queensland species; but the latter is always described as an Ironbark, and the fragments of the type that we have hitherto had the opportunity of seeing present differences in the fruit and leaves which make us feel that the interests of science will best be served in giving the former a name.

E. Boormani, when young, has the flattish bark often seen in young *E. siderophloia*. The foliage, inflorescence and fruits show obvious resemblance to that species, while its resemblances to *E. hemiphloia* have in our former paper (xxv., 111-2) and in this been dwelt upon.

E. Boormani has undoubted affinity to our *E. affinis*, particularly in the timber and bark. At Lue they are both called Black Box, and, as far as specimens in our possession go, we cannot separate the trees, either in timber or bark; the leaves also are much alike in texture and venation, but the fruits are very dissimilar. *E. affinis* itself may be looked upon by some botanists

as an Ironbark-Box hybrid, its parents being *E. sideroxydon* and *E. hemiphloia*, var. *albens*.

The species has undoubted affinities with *E. Bosistoana*. The late Baron von Mueller recognised this by confusing the two species; or, to put it in another way, by including the Ironbark Box with *Bosistoana* (see the original description, and our note, these Proceedings, xxv., 112). They can, however, be readily distinguished by the rough branches of *E. Boormani*, while those of *E. Bosistoana* are smooth, like the Boxes (*E. hemiphloia*, &c.). At the same time it must be noted that the rough bark on the butt of *E. Bosistoana* often displays considerable similarity to that of *E. Boormani*.